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10/032,270	12/20/2001	Christopher W. Jones	T-6066	6523

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EXAMINER

SAMPLE, DAVID R

ART UNIT

PAPER NUMBER

1755

DATE MAILED: 08/04/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant N .

10/032,270

Applicant(s)

JONES ET AL.

Examiner

David Sample

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 46 is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 6-10, 12-18, 21-25 and 27-45 are rejected under 35 U.S.C. § 102(b) as anticipated by Gajda et al. (US Patent No. 5,980,859).

Gajda et al. discloses a method of treating a zeolite in which zeolite beta is calcined to remove the organic templating agent, and the calcined beta is treated with a mineral acid solution. See col. 2, lines 9-23, and Examples 1 and 5.

As to claims 2, 17, and 32, the reference discloses calcining the zeolite. Id.

As to claims 3, 6, 7, 18, 21, 22, 33, 36 and 37, the reference discloses treating the zeolite with a mineral acid such as nitric, sulfuric, or hydrochloric. See col. 3, lines 24-26.

As to claims 8, 9, 23, 24, 38 and 39, the reference fails to specifically disclose employing an acid solution that has a pH below the isoelectric point of silica. However, Gajda et al. discloses employing an acid solution having a pH of 1.0 to 3.5. See col. 3, lines 25-27. This range is sufficiently specific to anticipate the range recited in claims 9, 24, and 39. See MPEP

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2131.03. In view of this closely overlapping range, the reference is deemed to inherently disclose that the acid medium has a pH below the isoelectric point of silica. See MPEP 2112.

As to claims 10, 25, and 40, the reference discloses employing a temperature of "about 100°C". See col. 3, lines 27-30. This disclosure is deemed to anticipate the claim recitation of "about 135°C" in view of the latitude in interpreting the word "about" in claims.

As to claim 12-15, 27-31, and 42-45, the reference discloses treating an aluminosilicate zeolite having the beta structure (i.e., the BEA topology). See the title and the abstract, and col. 1, lines 58-65.

The examiner notes that a process step of steaming is performed by Gajda et al. in between the calcining to remove the template and the acid treatment. However, applicants employ "comprising" claim language which opens the claims to additional steps. See MPEP 2111.03.

The examiner further notes that the reference fails to disclose that the treatment results in an increase of the hydrophobicity of the zeolite as recited in instant claim 16. However, the reference performs a process that is identical to the presently claimed process. Since the process of the reference is identical to the present process, it is assumed that process of the reference inherently results in an increase in the hydrophobicity of the zeolite. See MPEP 2112.

The reference fails to disclose the recitations of instant claims 34, 35 and 41. However, these claims are product-by-process claims which are not limited to the manipulation of the recited steps for patentability, only the structure implied by the steps. See MPEP 2113. In the present instance, it is unclear to the examiner what structure is implied by the steps. However, the reference is presumed to disclose a material that is identical to presently claimed material.

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Claims 1-10, 12, 14, 15-25, 27, 29-42, 44 and 45 are rejected under 35 U.S.C. § 102(e) as anticipated by Benazzi et al. (US Patent No. 6,165,439).

Benazzi et al. discloses a method of treating a zeolite in which zeolite NU-86 is calcined to remove the organic templating agent, and the calcined beta is treated with a mineral acid solution or a solution of $\text{CH}_3\text{CO}_2\text{H}$ (acetic acid). See col. 3, lines 44-50, and Examples 1, 3, 5, and 6.

As to claims 2, 17, and 32, the reference discloses calcining the zeolite. Id.

As to claims 3-7, 18-22, and 33-37, the reference discloses treating the zeolite with a mineral acid such as nitric, sulfuric, or hydrochloric. See col. 3, lines 24-26.

As to claims 8, 9, 23, 24, 38 and 39, the reference fails to specifically disclose employing an acid solution that has a pH below the isoelectric point of silica. However, Benazzi et al. discloses employing a 0.8 N nitric acid solution. See Example 3, col. 7, line 31. The examiner calculates that a 0.8 N nitric acid solution would have a pH of 0.1. This pH anticipates the range recited in claims 9, 24, and 39. For this reason, the reference is deemed to inherently disclose that the acid medium has a pH below the isoelectric point of silica. See MPEP 2112.

As to claims 10, 25, and 40, the reference discloses employing a temperature of "about 100°C". See col. 7, line 32. This disclosure is deemed to anticipate the claim recitation of "about 135°C" in view of the latitude in interpreting the word "about" in claims.

As to claim 12, 14, 15, 24, 27, 29, 30, 42, 44 and 45, the reference discloses treating an aluminosilicate zeolite having the NU-86 structure. See the title and the abstract, and col. 1, lines 58-65.

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The examiner notes that the reference fails to disclose that the treatment results in an increase of the hydrophobicity of the zeolite as recited in instant claim 16. However, the reference performs a process that is identical to the presently claimed process. Since the process of the reference is identical to the present process, it is assumed that the process of the reference inherently results in an increase in the hydrophobicity of the zeolite. See MPEP 2112.

The reference fails to disclose the recitations of instant claim 41. However, this claim is a product-by-process claim which is not limited to the manipulation of the recited steps for patentability, only the structure implied by the steps. See MPEP 2113. In the present instance, it is unclear to the examiner what structure is implied by the steps. However, the reference is presumed to disclose a material that is identical to presently claimed material.

Claims 1-3, 10, 12-18, 25, and 27-45 are under 35 U.S.C. 102(b) as being anticipated by Saxton et al. (US Patent No. 5,508,019).

Saxton et al. teaches a method of treating a zeolite in which a calcined zeolite in water is treated with an organic sulfonic acid at elevated temperatures of, e.g., 80°C. See, e.g., Examples 1, 2, 4-11, col's 6-7.

Saxton et al. does not expressly describe the step of calcining the zeolite to remove the structure-directing agent (i.e., template). However, Saxton et al. contrasts "calcined" zeolites with "as-synthesized" or "non-calcined" zeolites. See Example 3, col. 6. "As-synthesized" or "non-calcined" zeolites are defined as aluminosilicates still containing organic template. Id. From this disclosure, it is clear that the "calcined" zeolite referred to in Example 1 has undergone calcination to remove the organic template.

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As to claims 3, 18, and 33, the reference employs an organic sulfonic acid. See the abstract.

As to claim 10, 25, and 40, the reference discloses acid treating at a temperature of 100°C which is "about" 135°C.

The examiner notes that the reference fails to disclose that the treatment results in an increase of the hydrophobicity of the zeolite as recited in instant claim 16. However, the reference performs a process that is identical to the presently claimed process. Since the process of the reference is identical to the present process, it is assumed that process of the reference inherently results in an increase in the hydrophobicity of the zeolite. See MPEP 2112.

The reference fails to disclose all of the recitations of instant claims 31-45. However, these claims are product-by-process claims which are not limited to the manipulation of the recited steps for patentability, only the structure implied by the steps. See MPEP 2113. In the present instance, it is unclear to the examiner what structure is implied by the steps. However, the reference is presumed to disclose a material that is identical to presently claimed material.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 11 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saxton et al. (US Patent No. 5,508,019).

As noted above, Saxton et al. discloses a method that anticipates the instant claims. The reference differs from instant claimd 11 and 26 by failing to disclose an anticipatory example or a range of heating temperatures that is sufficiently specific to anticipate the range of the claims. However, the reference discloses a heating temperature of 20-200°C which overlaps the presently claimed range. See col. 4, lines 35-37. Overlapping ranges have been held to establish *prima facie* obviousness. See MPEP 2144.05.

Allowable Subject Matter

Claim 46 is allowed. The prior art fails to disclose or suggest an all silica molecular sieve having the CON topology.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Sample whose telephone number is (703)308-3825. The examiner can normally be reached on Monday to Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on (703)308-3823. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703)872-9310 for regular communications and (703)872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

A handwritten signature in black ink, appearing to read "David Sample", written over the printed name.

David Sample
Primary Examiner
Art Unit 1755

DRS
July 31, 2003